THE ZOOLOGIST

FOR 1859.

Reason and Instinct. By the Rev. J. C. Atkinson, M.A.

If now we turn to investigate the phenomena which bear upon our last position we shall find ourselves not without a series of facts on which to form a judgment, but still with a series comprising fewer and less closely connected facts than we shall desire.

We have, on the one side, the example of the white man, who, forsaking many of the peculiarities and extricating himself from the action of many of the influences of civilized life, assumes the habits and undergoes the vicissitudes, physical and psychical, of savage life. I refer to the professional hunters, the trappers, voyageurs, "mountain men," of the Far West. "Wild as savages," "Wild and half savage," are the descriptive epithets applied to them by one who knew their class well, and had spent no small portion of his adventurous manhood among them and in the scenes mainly frequented by them.

And, on the other, we have the evidence afforded by the condition of those wretched human creatures who are known to have fallen lower and lower in the grades of humanity; in other words, to have lapsed to the very lowest depths of barbarous or savage life: I mean the Bushmen of South Africa, the Diggers or Yamparicas of Western America, and the like. Both the tribes named—if indeed they can be with propriety styled tribes at all—present many of the characteristics of the lower animals, and but very few of the ennobling distinctions of humanity, and even those few shining with a miserably obscured light.

As to the psychical condition of the Bushmen, I must be content to repeat part of a description already given (Zool. 5584) of their habits and condition, physical and psychical. "No picture of human degradation and wretchedness can be drawn which exceeds the real

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abasement and misery of the Bushmen, as we find it displayed by the most accurate writers who describe this people without houses or even huts, living in caves and holes of the earth. These naked and half-starved savages wander through the forests in small companies or separate families, hardly supporting their comfortless existence by collecting wild roots, by a toilsome search for the eggs of ants, and by devouring, whenever they can catch them, lizards, snakes and the most loathsome insects. It is no matter of surprise that those writers who search for approximations between mankind and the inferior orders of creation fix upon the Bushmen as their favourite theme. The desire of revenge is one of the strongest of their passions; it urges them to the most barbarous acts; they commit the most frightful outrages under the impulse of momentary irritation. Their eagerness for vengeance is so urgent as to render them indifferent on whom they wreak it, provided the sufferer be of the same country as the offender." Add to this, that where vicinity to the residence of owners of flocks and herds, or the numerical strength of their hordes permits it, marauding propensities, quite equal in intensity to those of the lion or the wolf, display themselves, and are indulged quite as regardlessly as by either of those animals, while the poisoned shafts of the Bushmen are more dreaded by the herdsmen whose cattle are attacked,—as well as more than as dangerous to them,—than the fangs of the fiercest lion; so that it has often become necessary for the industrious Griquas or Bechuanas, whose neighbourhood was infested by some horde of these Lilliputian savages, to resolve to attack the Bushmen and accomplish their destruction at whatever cost.

As to the condition of the Digger, precisely parallel to that of the Bushman, Lieutenant Ruxton will bear testimony. Speaking of a journey taken by certain persons, he says, "They came upon a band of miserable Indians, who, from the fact of their subsisting chiefly on roots, are called Diggers. A few of these wretched creatures came into camp at Sundown; they appeared to have no other food in their village but bags of dried ants and their larvæ, and a few roots of the yampah. Their huts were constructed of a few bushes of grease-wood piled up as a sort of breakwind in which they huddled in their filthy skins."—(Far West, p. 102). "They were now entering," he continues, "a country inhabited by the most degraded and abject of the western tribes, who, nevertheless, ever suffering from the extremities of hunger, have their brutish wits sharpened by the necessity of procuring food, and rarely fail to levy a contribution of rations, of horse or mule flesh, on the passenger in their inhospitable country. The brutish cunning and animal instinct of these wretches is such, that although arrant cowards, their attacks are more feared than those of bolder Indians. These people—called the Yamparicas or Root Diggers—are, nevertheless, the degenerate descendants of those tribes which once overran that portion of the Continent of North America now comprehended within the Boundaries of Mexico, and who have left such startling evidences in their track of a comparatively superior state of civilization. They now form an outcast tribe of the great nation of the Apache. The Apaches and the degenerate Diggers pursue a cowardly warfare, hiding in ambush, and shooting the passer-by with arrows; or dashing upon him at night when steeped in sleep, they bury their arrow to the feather in his breast."—(Id. 181).

Such then is the effect of moral and physical retrogression—for both these tribes, I repeat, are known to have retrograded in the scale of humanity—upon the human creature. He becomes all but an inferior animal in his obedience to instinctive impulses, and scarcely more raised above the brute by any exercise of the higher gifts of Reason, than are some of the craftier and more intelligent brutes over the remainder of the great family they belong to. That is the accomplished result of the downward movement continued until it seems to approximate towards completion.

The earlier stages are seen in the accounts given of the class of men referred to a little above; the class, I mean, of "Mountain men" or "Trappers." Here is a description of one of them:—"The last in height, but the first in every quality which constitutes excellence in a "Mountaineer," whether of indomitable courage, or perfect indifference to death or danger; with an iron frame capable of withstanding hunger, thirst, heat, cold, fatigue and hardships of every kind; of wonderful presence of mind, and endless resources in times of peril; with the instinct of an animal and the moral courage of a man."—(Far West, 235). Again, "The trappers of the Rocky Mountains belong to a "genus" more approximating to the primitive savage than perhaps any class of civilized man. Their lives being spent in the remote wilderness of the mountains, with no other companion than Nature herself, their habits and character assume a most singular cast of simplicity mingled with ferocity, appearing to take their colouring from the scenes and objects which surround them. Knowing no wants save those of Nature, their sole care is to procure sufficient food to support life, and the necessary clothing to protect them from the rigorous climate. When engaged in their avocation, the natural Instinct of primitive man is ever alive, for the purpose of guarding against danger, and the provision of necessary food. Keen observers of Nature, they rival the beasts of prey in discovering the haunts and habits of game, and in their skill and cunning in capturing it. Constantly exposed to perils of all kinds, they become callous to any feeling of danger, and destroy human as well as animal life with as little scruple and as freely as they expose their own. Of laws, human or Divine, they neither know nor care to know. Their wish is their law, and to attain it they do not scruple as to ways and means. They may have good qualities, but they are those of the animal; and people fond of giving hard names call them revengeful, bloodthirsty, drunkards, gamblers, regardless of the laws of *meum and tuum*,—in fact, White Indians. Their animal qualities, however, are undeniable. Strong, active, hardy as bears, daring, expert in the use of their weapons, they are just what uncivilized white man might be supposed to be in a brute state, depending upon his Instinct for the support of life. During the hunt the Trapper's nerves must ever be in a state of tension, and his mind ever present at his call. His eagle eye sweeps round the country, and in an instant detects any foreign appearance. A turned leaf, a blade of grass pressed down, the uneasiness of the wild animals, the flight of birds, are all paragraphs to him written in Nature's legible hand and plainest language. All the wits of the subtle savage are called into play to gain an advantage over the wily woodsman; but with the natural Instinct of primitive man, the white hunter has the advantages of a civilised mind, and, thus provided, seldom fails to outwit, under equal advantages, the cunning savage."—(Adventures in Mexico, 241, 244). And this character, in a variety of delineations of great force and breadth, and to the general accuracy of which the writer pledges himself, is shown to be anything but a mere ideal. The mountain man is seen to be no insufficient match for the Indian in any of the peculiar qualifications for maintaining a savage existence possessed by the latter, and even to a degree, often a considerable degree, acquires the peculiar keenness of vision and intuitive perception of locality and direction, which, in their full development, are found only in the savage. But at the same time, out of that peculiar line in which their faculties are wontedly exercised, the higher portions of man's intellectual nature are as little apparently employed as possessed. Eager for collision with the Indian, who is instinctively—it may with the utmost truth be said—regarded as their natural foe; gratifying their thirst for his blood—if the chances of the contest so permit—with a savage, inextinguishable lust; planning their attack and executing it as stealthily and remorselessly as the lion or the bear; or prosecuting their object of hunting and trapping as craftily and pertinaciously, and with as much eagerness and preoccupation as the savage man or the savage animal; or pairing—for so it can only be called—with an Indian woman or possibly two, perhaps with their consent, perhaps after their purchase from some other trapper, perhaps after a sort of Rape-of-the-Sabines wooing, and then as lightly dissolving the brief union by sale or desertion; or, on revisiting scenes of life less savage than their wonted one, indulging their animal passions of sexual lust and drink and gluttony, and fighting at the least provocation like so many brute beasts and with almost less restraint;—they do indeed show what are the steps trodden in the downward direction from civilized life to uncivilized, and so mainly tend, no less than the Bushman and the Digger, to support our last position,—that, if by any chance man treads in a backward order the steps he has already imprinted in his passage from the uncivilized to the civilized state, he, at the same time, and as if inevitably, becomes clothed upon again with some of his instinctive habits and loses some of the finer functions of Reason: and that, at the same time, it is most difficult to attempt to define at what point,—or indeed, if at any point,—this process at length stops short.

J. C. Atkinson.

Danby Parsonage, Grosmont, York.

The Black Rat **(Mus rattus).—This species, usually considered rare and almost extinct, has occurred in large numbers on board a ship lately arrived from Bombay: whether they were on board on her departure from England, or whether she became infested with them at one of the foreign ports, I am unable to say; but most of those caught were of large size, and were probably on board for many months. With them there were also a few of the common brown species, in the proportion of perhaps one to three.—*Robert M'Lachlan; Forest Hill, December* 13, 1858.**

Bats flying in the Sunshine.*—It is not usual for bats to fly about during a bright sunshine in an afternoon, as described by Mr. Holdsworth (Zool. 6257). I have no doubt that these bats, described as of a larger size than usual, were only some old ones which had been disturbed from some old building or some "ivy-mantled tower' in the neighbourhood, by workmen or other intruders upon their quiet roosting-place. During the last two summers bats have made their appearance at the church I attend, much, I fear, to the amusement of some of the juvenile male portion of the congregation; for many Sundays, as soon as the organ was played, these bats came out from the belfry, near the organ, and flew about until some of the young ones fell exhausted into several of the pews of the church.—*H. W. Newman.

PS. On looking again at Mr. Holdsworth's communication I find it is dated the 12th of September; this was an unusually hot and sultry day for the time,—the ther-

mometer stood at 76° in the shade in Gloucestershire at 2 P. M., with a dead calm; this extraordinary heat might have brought these bats out a couple of hours before their usual time: two days previously the temperature was ten degrees cooler.

Scraps from the Far West. By THOMAS BLAKISTON, Esq., Lieut. Royal Artillery.

Fort Carlton, Saskatchewan River,
January 14, 1858.

Dear B———,

In a letter to J———, which I suppose you will see, I have given a description of my journey from Hudson's Bay to this out-of-the-way place, which will give you some idea of "Voyages and Voyaging in the Fur Countries," the isolated portion of Red River Settlement, my winter employment, position of Fort Carlton, what I have done in the way of collecting, and the distance a letter has to travel to reach England. You will observe that I have entered into no particulars concerning Ornithology, the reason being that a mere dry collection of observed facts could not be interesting, and I refrain at present from drawing any general conclusions until I have compared my observations with those of others, which I cannot do until I have leisurely ran through the 'Fauna Boreali-Americana,' by Richardson and Swainson, which is the great authority on this country. However, as you have more knowledge of North-American Ornithology than myself, and as you may have some opportunities of referring to works on the same, perhaps the following notes concerning the birds observed during a boat voyage from Hudson's Bay to Lake Winnipeg and up the Saskatchewan River, in the fall of 1857, may be interesting.

The first portion of the journey is from York Factory, lat. 57°—long. 92½°, in a general S.W. direction, about 300 miles to the North end of Lake Winnipeg, in lat. 54°, during the first three weeks of September. This may be despatched in a few words.

Eagles. Observed on one or two occasions.
Fish Hawk. Often seen.
Hawks. A good many, but none identified.
Belted Kingfisher. Not uncommon.
Shrikes. One, which I take for Lanius borealis, I have preserved.
Turdus migratorius. A few observed.
Warblers. I consider I saw Sylvia æstiva.

Wren. One species of Regulus (calendula).

Tits. Parus hudsonicus and P. atricapilla.

Sparrows. Fringilla iliaca, F. pennsylvanica, F. canadensis and F. hyemalis seen and shot.

Redpole. Considered I saw some flying over.

Bunting. Emberiza Savanna shot at York Factory in August.

Grackles. Quiscalus versicolor sparingly; Q. ferrugineus common.

Raven. Corvus corax everywhere; but no crows.

Jay. Garrulus canadensis also everywhere.

Woodpecker. Picus arcticus shot, and P. auratus seen.

Pigeon. A couple of stragglers observed.

Grouse. None seen, but plenty of droppings in some places. From description I have no doubt the ruffed and Canada grouse are found East of Lake Winnipeg.

Plover. One flight observed.

Sandpipers. Tringa remipalmata shot in Hudson's Bay; T. americana shot in the river; T. vocifera very common from the sea to Lake Winnipeg at the season.

Geese,—the greater part of which I considered Anser canadensis. Observed a migration first on the 16th of August. York Factory, and continually seen along the route.

Ducks. Mallard most common; greenwinged teal, not rare; golden-eye and buffel-headed ducks were distinguished, and others observed, among them, I think, were the scaup and wigeon.

Cormorant. A species observed two or three times.

Two species of tern were observed at the mouth of Hayes' River, Hudson's Bay, and one on Lake Winnipeg.

Loon. Great northern diver not uncommon on the Lakes, but never seen in rivers.

No birds of the swallow tribe were observed.

All this time I had been travelling over ground that is perpetually frozen, and at York Factory is found to thaw only to the depth of three or four feet during summer. Norway House stands just on the dividing line between perpetually frozen ground and that which entirely thaws, and this line appears to run from the south of Hudson's Bay to the north end of Lake Winnipeg, and in going west tends to the north.

The second part of my journey, you will see, lies between 53° and 54° N. lat., until Carlton is reached, which is but seven miles south of the former, and in long. 106½° W.

Lake Winnipeg divides two portions of country very different both in geological formation and external aspect, and having traversed the densely wooded part of primitive formation, we now enter a region of "drift," geologically speaking, under which lies limestone. After passing the Grand Rapid and Cedar Lake the whole country is nearly level, and being but little elevated about the river is nearly all swamps, until you reach above Cumberland House, which you will see marked on the map.

This is a great *rendezvous* for wild fowl, and where I was so astonished at the immense numbers, which I have mentioned in a letter to J———. After this you gradually rise, step by step, to the great "prairie levels," the cutting of the river becoming deeper and deeper, until, at Carlton, you have risen about 400 feet above Lake Winnipeg. Wood gradually disappears, except along the river, and here, at some distance from the river, you lose wood altogether, and in other parts you have only a small growth of poplars and willows, a tree of the pine family being a rarity.

Now, as you may have a faint idea of the country through which this river passes, I will commence with the ornithological notes.

From the Autumnal Equinox to October 23.

Eagles. Were occasionally seen during the whole time, but not identified.

Fish Hawk. Only observed once or twice.

Hawks. 1. A small species was observed, spotted under parts. 2. A large species of supposed buzzard, entirely of an ash-colour, without the white rump. 3. Supposed hen harrier in adult plumage; also one in plumage part ash and part red-brown, with the white rump. 4. A good-sized dark-coloured species. 5. One, of which I have a specimen not made out.

I have an account of some mallards and teal chased by a couple of hawks and our boat, which I noted at the time while the scene was fresh in my mind, and hope to have the pleasure of reading the same to you from my note-book, when we meet again. I also observed the small species mentioned make a swoop at a belted kingfisher, nearly as large as itself.

Owls. I have but twice noted an owl as seen. Having hard work during the day I was asleep generally during the whole night; but, at any rate, this open country is not well suited to these birds.

Belted Kingfisher. Common, but not observed after the 7th of October, at "Mosquito Point," lat. 53°—50° N., long. 102°—53° W.

Specimen examined minutely, apparently differing in nothing from Nova Scotia specimens.

Robin. Only once seen on the 18th of October; there was no doubt about it, for I had a near view, but missed killing him; this I considered rather curious, as I had not seen any since near Hudson's Bay, six weeks previous.

Hermit Thrush (*Turdus solitarius*). Observed at Cumberland House on the 4th of October. I saw it several times, but had no gun.

Wren. One which appeared like T. hyemalis was once observed.

Ruby-crowned Regulus. Occasionally observed, specimens closely examined. Gold-crest not seen.

Blackcap-tit *(Parus atricapillus)*. Very common.

Cassin in his 'Birds of Oregon, California, &c.,' which I think I showed you at Richmond, makes out a species which he calls the "Northern Chickadie or Longtailed" (*Parus septentrionalis*), and puts down the habitat as "Missouri, Utah, Rocky Mountains." I can see no difference between those I have shot here and specimens preserved in Nova Scotia, which I never doubted being the P. atricapillus. I shall keep a sharp look out, and procure several specimens, of which I shall send L—— one for comparison. If the one here is the P. atricapillus, I think the other should rather be called western than northern.

Shore Lark. Observed for one week, in small parties, from the 4th of October.

Fringilla iliaca. Not after the end of September.

F. pennsylvanica. Not west of Lake Winnipeg.

F. canadensis and F. hyemalis. Always in company, and the most common birds until the 14th of October, when the last of the former, and the 18th of October, the last of the latter, were seen, they being solitary stragglers. I have a specimen of the former.

Redpoles. Not certain.

Snow Bunting. Observed in small flocks from the 8th of October (four days after the shore lark); in a few days they arrived in considerable numbers, and were in large flocks at Fort Carlton. For departure of them you will hear by another letter.

Purple Grackle. Observed sparingly, except about the little cultivated ground at Norway House and Cumberland, after which (October 4th) are not seen.

Rusty Grackle. Common along river banks until the 20th of October.

Raven. I need hardly say was always to be seen, and, so far from being solitary, is always in pairs, and occasionally a number together. On the roosting of these birds at Carlton you will hear at a future time.

Magpie. First seen on the 7th of October at Mosquito Point, where the belted kingfisher was last seen. Observed occasionally at Carlton, where it resides the winter. Not seen between Hudson's Bay and Lake Winnipeg.

Blue Jay. Seen only on two occasions, the 12th and 16th of October. One shot and examined.

Canada Jay. This companion of the voyagers is seen everywhere, and never refuses "pemmican" when he can get it.

Redbellied Nuthatch. In company with blackcap-tit and Regulus on two occasions at the end of September, not far west of Lake Winnipeg; a specimen preserved. You will observe that on this side of Lake Winnipeg no Hudson's Bay tits were seen.

Woodpeckers. 1. A large species, perhaps Picus pileatus, seen middle of October; also supposed, 2. P. villosus once at same time of the month. 3. P. pubescens, shot and examined, end of first week of October, and again on the 14th. 4. P. varius. A specimen preserved, and another shot at the end of September. 5. P. auratus. Supposed seen.

Ruffed Grouse. Sparingly as far as near the "Forks" of the Saskatchewan, where the north and south branches meet.

Canada Grouse. Seen on two occasions below the "Forks."

Sharptailed Grouse. First seen where the ruffed grouse ceased, inhabiting the partially wooded parts of these plains in numbers. I have many notes concerning them, which I hope to perfect by observing their spring and summer habits. They are said to collect in great numbers and *dance*.

Plover. One decided flock was seen; and although it may appear rather late, a solitary golden plover was shot near here on the 3rd of November, and preserved.

Sandpiper. Two or three species were observed, but none identified.

Totanus vociferus. Almost always to be seen, until the beginning of October, a single one being seen flying over on the 16th. This bird does not apparently require soft mud, but appears as much at home where all is rock.

Snipe. The single squeak of the snipe was heard one evening while waiting for ducks.

Geese. Numerous during the whole voyage, but most particularly so in the low swampy country below Cumberland, which has been mentioned. I distinctly recognised by examination Anser canadensis and albifrons, but I shot one which resembled the former, except in size, and I was assured by the Indian "bowsman" that it was the young of that bird; however, I cannot reconcile the considerable difference in size, I therefore give you the particulars:—Length 27½ inches; wing 16½ inches; extent 54½ inches; bill, legs and feet black; nail of the upper mandible dark brown,—that of lower horn-colour; bill along the ridge 1½ inch; eye hazel; upper tail-coverts, from end of tail, 2½ inches. It differed from Wilson's description in the following points:—lower part of neck and breast light ash; upper part of back brown; end of feathers lighter; rump nearly black; upper tail-coverts, belly, vent and under tail-coverts white; under surface of wings nearly black; wings reach about end of tail; sides ash-brown, tinged with lighter; legs and feet sometimes after death assume Wilson's colour. Do you consider this the young of A. canadensis, or may it be A. Hutchinsii? Geese were in numbers at a saline lake near here on the third of November, at which time ice covered portions of the lakes. I hope to do something during my spare time in the way of waterfowl on their arrival in spring.

Ducks. Mallard the most common duck throughout, from Hudson's Bay, although usually not seen in large flocks. Had not left Carlton till November; in fact, as long as there is open water, ducks and geese remain.

Wigeon. Observed sometimes in immense flocks.

Greenwinged Teal. Common.

Goldeneye. Considered to be seen, and many which were not made out.

Goosander. Was shot a couple of days below Carlton, and is preserved.

Cormorant. A few were observed before the close of September.

Pelican. Supposed from markings to be P. americanus, observed in numbers at the "Grand Rapid," where the Saskatchewan enters Lake Winnipeg, on the 25th of September, and, a few days after, a scattered one or two. I believe they do not range East of Lake Winnipeg, and they tell me here they are seldom seen; however, I put little confidence in what I am told by casual observers, as I have been so often deceived by them.

Tern. One species observed on Lake Winnipeg.

Gull. About three species observed on Lake Winnipeg; one specimen was procured in one of the small lakes, and they were observed as late as the 2nd of October.

Loon. Supposed great northern diver, seen at beginning of voyage.

And now I have run through my list, and hope that the comparing these notes with the observations of others will afford you some amusement: I shall be glad when I receive any general conclusions which you may draw from the same.

Of the progress of the season, suffice it to say, that in the beginning of the time comprised in this second part of my voyage, Nature was in her "fall" dress, and, before I reached Carlton, ice was forming along the banks and in the small bays of the river.

While we were in that land of waterfowl below Cumberland, I witnessed a shower of feathers: as we sailed up a reach of the river with a fresh breeze, without the knowledge of a human being within many miles of us, it appeared to be snowing; this was nothing more than small feathers, and we supposed that at some Indian Camp in the swamps to windward the operation of goose-plucking must be going on; these feathers had likely travelled many miles, and would continue while the breeze lasted.

I hope that you may be at some place where you may be able to refer to the 'Fauna Boreali-Americana,' and I should feel much obliged if, from the perusal of it, you would call my attention to points requiring special observation. At present I feel myself on ground trodden by those more capable, and with greater facilities than myself, as Ornithology is only secondary with me, on account of duty requiring so much of my time; but once at the Rocky Mountains, which I hope I may be ordered to cross, I shall consider myself on new ground.

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I have a young "half breed" under instructions in the way of skinning, who I hope will be of great use to me next summer while travelling, as my time is not my own.

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There is a species of grosbeak, which, as well as the pine grosbeak, has been here all winter, but is not so numerous as the latter; I cannot identify it by Wilson or Brewer's Synopsis, and in my Journal have therefore called it for distinction "yellow-fronted grosbeak," however, if as you wish, and I hope for your sake, you are at present stationed in Dublin, you will have no difficulty in procuring the 'Fauna Boreali-Americana' from the Dublin Society's library, and no doubt make the bird out. I therefore, as I have two specimens of each sex now before me, will attempt a description:—

Male and female differ little in size, are from $7\frac{5}{8}$ to 8 inches; the closed wing $4\frac{3}{8}$ to $4\frac{5}{8}$ inches; bill light dull greenish yellow; eye dark hazel or brown; feet flesh colour; claws brown.

Male. Top of head, primaries, and first secondaries, tail-coverts, tail and line at base of bill black. Front, line over eye, rump, abdomen and under tail-coverts bright yellow. Throat, cheeks and neck dark olive, fading gradually towards yellow on back and breast. The secondaries near the body white, which, when wing is closed, forms a pure white patch. Shoulder of wing tinged with yellow.

Female. Head, cheeks and back dark ash, fading to light drab on rump. Under parts light drab-ash, with throat whitish, with an indistinct black line from base of bill on each side of throat. Base of bill (as in male) margined with a thin line of black. Tail and tail-coverts black, each tipped with white. Primaries and other coverts black, the six interior primaries marked with white below the coverts, and all now more or less tipped with same. Secondaries variegated with black, white and drab-ash. Abdomen and under tail-coverts dull white. Shoulder of wing tinged with, and auxiliary plumes yellow. Tinge of greenish yellow on hind neck and breast.

It is really a very handsome bird; and, from Brewer's short description, I should consider it to be C. vespertaria, but this description leaves out many points. This bird, I see, is quoted to be in the 'Fauna Boreali-Americana;' however, the habitat given by Brewer is "Columbia River."

THOMAS BLAKISTON.

Occurrence of an Eagle in Dorsetshire.—A sporting friend of mine has just informed me that an eagle has been shot, within the last week, at Abbotsbury, about nine miles from here, along the coast. My friend tells me it stood nearly three feet in height, and that its legs were nearly the size round of his arms: if this is correct, there is every probability that the bird is a golden eagle. I have, however, written to several parties, in order that I may examine the bird, so as to verify the species for my Dorset Fauna.—*William Thompson; Weymouth, December* 12, 1858.

Occurrence of the Goshawk in Norfolk.—A female goshawk, in the plumage of the first year, was shot at Hempstead, in this county, about the 23rd of November. This species, although only an occasional visitant at uncertain intervals, has of late years become even more scarce than formerly, which renders the present instance of its appearance on this coast more worthy of notice. The last specimen obtained in this district was an immature male taken in a trap at Catfield, in April, 1854; and another male, also in its first year's plumage, was killed at Stratton-Strawless, in November, 1850, which shows that stragglers may be met with both in spring and autumn. Adult birds of this species very rarely occur in this country; probably the only one known to have been killed in Norfolk is a male in the Norwich Museum, taken at Catton in 1841: in the same collection is also an immature female, shot at Hingham in the following year.—*H. Stevenson; Norwich, December* 6, 1858.

Notices of Ornithological Occurrences in Norfolk in October and November, 1858.—A few mealy and lesser redpoles, siskins and twites appeared about the first week in October, and left us again in a day or two on their way southward: the arrival of these birds early in the season usually indicates the approach of sharp weather, and in this instance was followed soon after by the intense frosts which we have lately experienced. On the 22nd of October a fine roughlegged buzzard, in nearly adult plumage, was shot at Seething: the specimens obtained in this county are principally young birds. An immature female of the longtailed duck was shot, about the same time, at Blakeney. About the 28th of October an unusually large number of woodcocks were met with in all directions, after a strong gale: a single specimen was picked up dead, close to this city, having flown, in the night, with such force against the wall of a house as literally to smash the frontal bone: within the last fortnight upwards of eighty-three woodcocks were shot, in one day, in some coverts belonging to Lord Hastings, in the vicinity of the coast. On the 10th of November a young hen harrier, male, was shot at Northrepps, near Cromer: these birds appear at the present time to be almost exterminated as residents in this county. On the 12th of November a storm-driven specimen of the little auk was picked up dead at South Walsham: this is the only one I have heard of this season. Whilst snipe-shooting (which birds were extremely plentiful on the Broad and Marshes from the 12th to the 15th), on the 16th, at Surlingham, I found, towards the afternoon, large flocks of pied wagtails dispersed all over the Broad, many of them clinging to the reed-stems, like the bearded tits, and smaller flights continually passing high overhead or stopping to join their companions: this was at the commencement of the severe frosts, and from the locality in which I found them, and their unusual numbers, I have no doubt that these were migratory arrivals, about to rest for the night, on their way inland. On the 19th of November a gray shrike, an adult male, was shot at Heigham, close to this city. On the 23rd of November a female waxwing was shot at Beeston, near Cromer (the frost still intense): I have not been able to ascertain if others were seen at the same time; but, during the last few years, only one or two stray specimens of this interesting but irregular visitant have been obtained: the last arrival of these birds in any quantity was in the winter of 1849-50, when such immense numbers were met with along the entire line of our Eastern counties. On the 26th of November another roughlegged buzzard, an adult female, a somewhat older bird than the last, was shot at Burgh.—*Id.; December* 7, 1858.

Occurrence of the Bohemian Waxwing at Weymouth.—On the 10th of December I had brought me a fine old male of the Bohemian waxwing (*Bombycilla garrula*): it has six tags on each wing: of course I secured it, having given five shillings for it: it had been killed about half an hour before I purchased it, and was still warm. It was first seen feeding on a haw bush (here the haws are called "pig-berries"). Gillingham, the man who killed it, fired and missed; it then flew a long distance, but returned and perched on the top of a high tree: the man told me he had very great difficulty in getting within shot a second time. This is the third notice I have of its occurrence in Dorsetshire: one was killed in January, 1850, at Abbotsbury, near Weymouth, and Rolls, the bird-preserver here, tells me one passed through his hands about ten years prior to that date. I fully expect there will be many notices from different parts of the country; I hope the correspondents of the 'Zoologist' will be particular with their dates, as it will be of assistance in tracing their spreading over the country. I had the carcass dressed, and I find the flesh rather dark, but juicy and very well flavoured,—so good, in fact, that I shall be glad to try it again: a good plan to serve them up is with bread crumbs fried and a lemon: it should not be too much roasted; a little paste should be put over it, to keep in the juice, which otherwise would escape, from its being skinned; this should be taken off just before it is quite cooked, and a little flour and butter dusted over it and slightly browned, to disguise its want of a skin.—*William Thompson; Weymouth, December* 12, 1858.

Occurrence of the Goldenwinged Woodpecker in England.—I have in my collection a specimen of the goldenwinged woodpecker, killed in Amesbury Park, in the autumn of 1836. My brother, now Member for Salisbury, saw this bird in the flesh before it was preserved; it was brought to him just after it was shot. I have never heard of any other specimen of this bird being killed in England: it is, I believe, a native of South America. It is something like the common green woodpecker, but has more yellow on the wing, and black spots on the breast. It was preserved by Mr. Edwards, of Amesbury, and has never been out of my possession.—*George S. Marsh; Chippenham; December* 10, 1858.

Birds' Nests: Nests of the Green Woodpecker and Nuthatch.—Among the subjects which have solicited the attention of the readers of the 'Zoologist' there are few which have obtained less general notice than the nests of birds: I have supposed therefore that it may be acceptable if I were to communicate to its pages some observations which I have had an opportunity of making on the nests of such of our feathered tribes as do not frequently fall in the way of naturalists, or of which, at least, distinct accounts, drawn from personal observation, are not often met with. I will begin with the nests of the common green woodpecker and the nuthatch,—birds which I class together, not only from the great similarity of their habits, but also because I have had an opportunity of studying the proceedings of those species at the same time and in the same neighbourhood, which is on the south-east border of the county of Cornwall, in which district, I may further remark, it has been said that the last-named bird is not to be found. On the rather extensive lawns that run eastward from the ancient mansion of Trelawny there are some very ancient chestnut trees, which stand singly at the distance of several yards from each other; and it is in such a situation that the green woodpecker usually, perhaps invariably, forms its nest, for the watchfulness of this bird is too great to suffer it to choose a place from which it shall not be able to discern an intruder at a considerable distance. In one of those trees, much fallen back from its ancient splendour of foliage and growth, I have remembered the existence of the nest for more than thirty years,—a curious instance of local attachment, which is not the less deserving of record because it is probable that they are not the same birds which have occupied the place so long: it has at least descended from one generation to another, without interruption, and an incident occurred in the course of the last summer which tends to show that it is not a small matter which shall cause these birds to forsake their long-accustomed haunt, to which their ancestors had probably resorted for many years beyond the number I have assigned to them. It is only a single tree which has thus been selected, although there are others that appear to offer equal convenience; but the nest-holes are two in number, although I have reason to believe that they were occupied by no more than a single pair of birds: my supposition is that one of those recesses is properly the nest, in which the eggs are hatched, while the other serves as the resting-place of the male bird: one of the holes is seven or eight feet higher in the tree than the other; their situation is conspicuous to every passer-by, and the lowermost of them is little above the giving-off of some large branches, from which the aperture of the nest may be easily reached; the opening is round, and, in appearance, seems of less size than could, without difficulty, permit the entrance of the bird; round the border the bark is pecked away for the space of about a quarter of an inch; inside this opening, for seven or eight inches, the descent is but little, but beyond this it dropped rather steeply for about two feet. The inside of the tree could be observed as wet and rotten, and the nest seemed formed out of the rotten wood. In the last week of May there was nothing in this nest, but in the first week of June there were five eggs, which were coloured by this rotten wood, but when washed they were beautifully white, and then it appeared also that their contents could be discerned through the shell: the eggs were taken away by a friend, who assisted in the examination of these nests, and the opening of the nest was firmly plugged up with a turf of grass: when, however, I came to examine it again a new opening had been made into the passage, immediately above the place where the turf had raised an obstruction, and this had been done by pecking in a circular form an orifice fitted to the former opening, with just so much of descent as to join the old passage close behind the obstruction. At this time the opportunity of a ladder was taken to examine the higher of those openings into the tree, the uppermost having, before this been beyond our reach: the floor of this nest or resting-place was covered with old rotten wood, and there were also found two or three feathers of the male bird, which bird was also seen to fly out of this hole. As there can be no doubt that successive generations of woodpeckers have been reared from this tree, and sometimes the brood has consisted of several individuals, it seems not the least remarkable circumstance in the history of this bird, that the local attachment of a single pair should be accompanied with a strong disposition to wander to a distance in the younger portion of the woodpecker community. The nest of the nuthatch is also in the body of a chestnut tree in a garden belonging to the mansion at Trelawny: the hole by which the entrance was effected was about three inches in diameter, and consequently much larger, in proportion to the size of the bird, than that of the woodpecker; but the opening was reduced to about an inch and a half by a border of mortar plastered round it: the passage went inward to the distance of three or four inches, and then descended six or seven inches more, where was the nest,—formed of what seemed the inner bark of a birch or plane tree,—dry and almost flat; it contained one young, living bird: the bed of this nest was formed of rotten wood, and was wet, covering over two addled eggs, which were stained with the colour of the rotten wood; it appeared probable they were the produce of the former year.—*Jonathan Couch; Polperro, Cornwall, December* 3, 1858.

Swallows in November.—On Friday, the 12th instant, I was passing by Ewell church, and observed two swallows flying about. I watched them for some time, and pointed them out to several persons who were passing, so that there can be no doubt as to their identity. The sun was shining brilliantly, but there was frost on the ground in the shade. The swallows assembled in large numbers here on the 14th of October, and none were to be seen the next day; but I observed one straggler about ten days afterwards.—*Samuel Gurney; Carshalton, November* 14, 1858.

Late brood of Starlings.—A pair of starlings have recently made a nest in a hole by the side of a water-tank on the roof of my house; the hole is so dark that one cannot see whether the four nestlings are nearly fledged or not.—*C. Fox; Middleton Lodge, near Richmond, Yorkshire, December* 4, 1858.

Occurrence of the Tree Sparrow at Penzance.—I last evening examined, in the flesh, a good specimen of this species, which had been obtained very near this place in a meadow with hedgerows, by Mr. Vingoe. I have not hitherto known any example to have occurred in this locality, nor do I know of any record of its having been found in Cornwall before, except in one instance, in the neighbourhood of Falmouth, where I remember observing the specimen preserved in the Museum.—*Edward Hearle Rodd; Penzance, December* 16, 1858.

Occurrence of the Parrot Crossbill (Loxia pityopsittacus) *near Brighton.*—I saw this bird, "in the meat," at Mr. Swaysland's shop; it had been caught the day before (Monday, November 2, 1858), at Bognor, by a bird-catcher, in clap-nets: the bird bit his fingers so much that he dared not place it among the newly-caught goldfinches, and was therefore obliged to kill it. It had a very large beak, with the cross not nearly so much developed as in Loxia curvirostra; there was a little yellow on the head. It was curious to find such a bird, apparently a long way from any of its appropriate food.

Beautiful Variety of the Partridge.—I yesterday saw a very strange and beautifully pied variety of the common partridge, which was shot by a gentleman's gamekeeper, near this city. The bird in question is nearly of a pure white; the throat is slightly mottled with a few ash-coloured feathers; the breast and belly are pure white, a slight bar of light ash-coloured feathers marking the place of the ordinary horse-shoe on the breast; the extreme primary feather of each wing is mottled with white and rufous; the second primary has a slight buff tinge along its shaft; the other primaries and the secondaries are white; scapulars white, slightly barred with rufous; back white, barred with a rich rufous; upper tail-coverts white; tail silvery brown, mottled with white and rufous. The bird is as fat as any partridge I ever saw, and altogether is a singular variety. Pied varieties of the partridge are not very common: I have seen silver birds, and I have heard of one being shot which was of a uniform buff colour. The bird-stuffer who is preparing the bird I have been describing has had many years' experience, during which time he has set up several varieties of the partridge, but he assures me he never saw one so strangely pied as this bird.—*Murray A. Mathews; Merton College, Oxford, November* 10, 1858.

Occurrence of Baillon's Crake, and its Nesting in England.—Several instances of the occurrence of this bird, during the present year, have come under my notice. It will no doubt be interesting to the readers of the 'Zoologist' to hear of authentic cases of its nesting in England. I have a fine male bird, which was shot in our fens in July; this appeared, from its internal state, to have been breeding, and led me to suspect that this species had nested in this district: this I found had been abundantly proved by the detection of a nest, on the 6th of June, containing six eggs, which were shown to me by Mr. Baker, naturalist, of this town. Some birds were shot also near the same locality about the same time: these, however, were unfit for preservation, and the eggs were much, but not irremediably, broken; one has been kindly given to me, and, though a little fractured, I value it highly, as one of the first British examples yet taken. A second nest was discovered in the first week of August, and, in this instance, the hen bird was taken on the nest: the eggs seven in number, had been sat upon for some time, and had lost the usual fresh bloom, yet still are very characteristic specimens: these were brought to me by Mr. W. Farren, of this town, in whose possession they now are: the female is a fine specimen, in good plumage. The spotted crake has also occurred in our fens in greater numbers than usual.—*A. F. Sealy; 70, Trumpington Street, Cambridge.*

Black Swans Breeding at Carshalton.—My black swans hatched off a brood of six cygnets on the 12th inst. The weather was intensely cold, and one morning, when they were three or four days old, they were frozen into the ice; but they did not in any way suffer from it. This is the third time they have bred this year: the first time was on the 29th of January, when they brought off eight cygnets; the second time was in the summer with seven, making a total of twenty-one young ones in ten months. I should be glad to know whether any of your correspondents can bring forward a similar instance of fecundity in the black swan.—*Samuel Gurney; Carshalton, November*, 1858.

The Pomarine Skua and other Sea Birds.—I was very well pleased to read Mr. Rodd's note on the pomarine skua (Zool. 6267), as it somewhat confirms an idea of mine, that the pomarine is far from being a scarce bird, and would readily be met with anywhere on our southern coast, if looked for about the middle of October, when it is making its migration southwards. This species is well known to the sailors at Torquay, who call it and Richardson's bird "Irish lords;" why, I could not discover. A sail on Torbay would well repay an ornithologist staying at Torquay in October. Let him cross the bay towards Berry Head, and then beat about its mouth, and note what he sees. Countless small flocks of "Mers" (*i.e.* guillemots) will stud the waters all round him, and will take but little heed of him as he passes among them. Kittiwakes, old ones and the beautiful "tarrocks," will hover over him, and scan his boat with curious eyes. He will see the "speckled divers" (*i.e.* the red and black-throated divers) ever and anon rising to the surface and shaking their wings before they dive down again into the blue deep after their prey: but these are wary birds and will not easily be approached. I was somewhat struck by seeing a specimen of the red-throated diver, in most perfect summer plumage, which was shot on the bay about the 15th of last October: it was in magnificent plumage, and did not appear to have commenced the autumn moult. But to return to the bay: look at that long line of dark-coloured birds flying rapidly across the horizon seawards; those are shags and cormorants, either seeking some favourite fishing stations or hastening to their perching stations on some distant cliffs. But what are those strange little birds which are flying rapidly all over the bay, and never seem to rest, save when they souse for a moment into the water, and, submerging themselves for a second or so, rise again into the air, and skim as before hurriedly over the bay? Those are the "mackerel corks," as the sailors call them,—the little Manx shearwaters,—which have been attracted by the shoals of small mackerel fry now swarming in the bay. You note how swift and straight their flight is, and when you examine their wings you are struck by their resemblance to those of a plover's, and mark the long tertiary feathers. Ever and anon you see small flocks of the common scoter crossing the bay, and the little oceanic ducks hurrying seaward by twos and threes. But what you justly consider the sight of all is to watch the noble gannet make his strange downward plunge from a height in the air into the sea below. What a time he stays underneath! and how the spray flies as he plunges in with the velocity of a cannon-ball! The gannet is not easily shot, unless he is so gorged with fish that he cannot fly; he then becomes an easy victim, for he cannot dive unless he can rise into the air, and gather *momentum* by precipitating himself downwards. But you are watching those large dark birds which are bullying and chasing the kittiwakes: the "Irish lords" are plying their nefarious trade; you see one or two of them settle on the water, and find that you can sail towards them. These birds will let you get close to them, and are so tender that a very slight wound will bring them down. See, you have a couple of them lying on the water, wounded: you pick them up, and find them both pomarines, the one an old bird, with the two central tail-feathers elongated and rounded at their tips; the other a young bird, in the rich chesnut-coloured garb of the bird which is so well figured in Yarrell's third volume. You may perhaps be fortunate enough to shoot one or two of Richardson's bird, but you will find that they are young ones, and you will hardly secure two alike. A friend and I shot five pomarine and two Richardson's skuas during a very short stay at Torquay. Three of our pomarines were fine adults. I also saw several other specimens of adult birds which had been killed about the same date by other shooters. —*Murray A. Mathews; Merton College, Oxford, November*, 1858.

Pomarine Skua (Lestris pomarina) *near Brighton*.—Of this bird I cannot do better than quote the interesting account sent me by the Rev. R. N. Dennis, Rector of East Blatchington, Seaford, Sussex:—"With a strong south wind and spring tides the salt water runs through the shingle bank and overflows some twenty or thirty acres of grass land in front of the little town of Seaford, and on this temporary salt-water lake storm-driven sea fowl occasionally rest. A raised causeway leads across the common from the town to the battery, and it was from this causeway that Willy Banks, the bricklayer, shot the pomarine skua on the 7th of October, 1858, the bird fell winged, and was brought out by his dog: his brother saw three or four more birds, which he described as of the same species, but did not think, as he says, 'of any account,' which, I suppose, means not worth powder and shot. I had passed the spot but a short time before, so that the bird had not long been in, and what surprised me a little was, that it must have come in when the tide was ebbing and the gale sinking. It is perhaps a little remarkable that on that same Thursday twelvemonth,—*i.e.* October 8th, 1857,—I shot two pomarine skuas and a Richardson's skua, during a tremendous southerly gale: a little flock of eight were resting on the flood at the lower part of this parish, and they had not only found shelter but a good feeding-ground too, as they were gorged with earth-worms brought to the surface of the salt water. The stomach of the bird shot this year contained nothing but a little green, swallowed (no doubt) accidentally with its prey." I saw the above mentioned specimen at Mr. Swaysland's "in the meat," it was a male bird, very old,—in fact quite aged,—with a most powerful beak, enough to kill any gull; it was just getting the two black feathers of the tail, being in autumn plumage.

Occurrence of Sabine's Gull (Larus Sabini) *at Brighton*.—This rare bird was shot in the equinoctial gale of Thursday, October 7th, 1858, in Hove, near Brighton. The head was not "dark or ash-colour," being an immature specimen, in autumn plumage, and, on dissection, found to be a male bird. I saw it just after it had been skinned by Mr. George Swaysland, naturalist, 4, Queen's Road, Brighton, where it may be seen for sale.

Remarks on the Southern Petrels.—Of all the birds that inhabit the southern seas the albatross is the best known; every one going for the first time round the Cape of Good Hope looks out with interest for his first sight of this far-famed bird, and generally he is disappointed; the bird he is pointed out is often of a dirty brown colour, large enough certainly, but surrounded by shoals of smaller ones, who have flown as far and braved the same dangers as the "wanderer" himself, these sadly take away from the grandeur of the scene. Nevertheless, an old fellow: in his full white plumage is a magnificent sight, as he, with outstretched wings, sails over the surface of the sea,—now rising high in the air, now, with a bold sweep, descending till his lower wing all but touches the crests of the waves as he skims over them; suddenly he sees something floating on the surface of the water, and he prepares to alight; but look how changed he is! Instead of the fine noble bird, all grace and symmetry, his head goes back and his back goes in, down drop two enormous webbed feet, straddled out to their full extent, and, with a hoarse croak, between that of a raven and a sheep, he falls "souse" into the water: here he is at home again, breasting the foam like a cork; presently he stretches out his neck, and, with immense exertion of his wings, runs along the top of the water for seventy or eighty yards; at last he gets sufficient *momentum*, and, tucking up his legs, he is fairly launched in the air. The albatross (*Diomedea exulans*) breeds in Prince Edward's Island, and others in about the same latitude; they congregate there in August and September, although a few always remain at sea: they breed on high flat plains, and lay one white egg; the nest is of the shape of a frustrum of a cone, with a slightly hollow top, made chiefly of dirt, which they obtain chiefly by digging a circular ditch and throwing the earth towards the centre, until they have heaped it up twelve or eighteen inches high, forming a miniature Martello tower. In January the parents leave their young, who remain behind in their nests until the next breeding season; while they are there it is difficult to imagine how they exist, as no old birds are seen to approach them for months together; next year, when the old birds arrive, they visit their former nests, and, after a little billing and cooing with their young (to make up, I suppose, for their neglect) they very unceremoniously turn them out, and, sending them, like a sailor boy, to find their "bread on the water," repair their nests for the next brood. They walk very badly, using their wings to help them, and cannot rise from a flat surface. The average breadth across the wings is about 10 feet, but they vary a good deal, reaching from 9 to 12 feet,—the accounts that make them 18 and 20 feet are fabulous; the length, from the tip of the beak to the end of the tail, is about 3 feet 6 inches. It is of no use describing so well-known a bird; so I will only remark that some of them have a rose-coloured ring round their necks, but I do not know if this is a distinct species, or only marks the sex. The albatross is not found north of the 30th parallel of south latitude, and abounds most between 38° S. and 47° S.; they monopolize nearly the whole of Prince Edward's Island and Kergueland's land. There are three species of albatross:—the great albatross (*D. exulans*), the one we have been mentioning; the black-backed albatross (*D. melanophrys*), called by sailors the "Molly hawk" or "Nelly;" and the sooty albatross (*D. fuliginosa* or *D. fusca*, Audubon), which sailors call the "Cape hen" or "pea-u." The yellow-nosed albatross (*D. chlórorhynchos* of Latham) is, I suspect, only a variety of D. melanophrys. The Molly hawk is smaller than the albatross, being only 7 feet acoss the wings and 2 feet 7 inches in length; its back between the wings is of a dark brown colour: unlike the albatross, it sometimes dives for its food, but does not appear to be very fond of it, generally preferring to let a mutton bird fish it up, then, giving chase and running along the water croaking and with its wings spread out, oblige the poor beast to drop it, which it then picks up before it can sink. The sooty albatross is about the size of the last-named bird, of a sooty complexion and with a head very much like a jackdaw's: it is a magnificent flyer, sometimes not moving its wings for an hour at a time; they breed in the cliffs, and their nests are consequently very difficult to get at; it has a very bad habit of screeching at night.—*F. Wollaston Hatton, Lieut. 23rd R. W. Fusileers.*

On the Occurrence of the Derbio (Lichia glaucus, *Cuv.*) *in Mount's Bay.* By R. Q. COUCH, Esq., M.R.C.S., &c.

The Derbio seems to be a somewhat rare fish, even in the localities in which it is most commonly taken; but in British waters this is, I believe, its first recognized visit. By the kindness of the fishermen of Mousehole and Newlyn I have generally an opportunity of examining the rare fish captured in the neighbourhood of the Land's End, and from one of them I received the specimen from which the following description is taken. It was captured in a drift-net employed in the autumnal mackerel fishery, in deep water, off the Runnel Stone, at the western entrance to Mount's Bay.

The length of the specimen is 13 inches; it is deep from the ventral to the dorsal margins, and is very much compressed laterally. The general shape of the body is fusiform, being much contracted at the root of the caudal fin, and the head is small and much pointed anteriorly. The general colour is dark; the dorsal surface is of a deep bluish black tint, somewhat similar to the mackerel, but much deeper; this tint terminates somewhat abruptly in a grayish neutral tint above the lateral line; and this inferiorly gradually fades away into a silvery white, with patches of red and yellow, which disappear soon after death. On the anterior and middle of the sides are traces of five perpendicular bands, similar to what is observed in the pilot fish; above they blend into the dark colour of the back; about the lateral line they are distinct, but below they again fade into the surrounding tints. The lateral line is straight posteriorly, and continues so till it arrives nearly on a plane with the origin of the dorsal fin, when it gradually arches up so as to reach the head above the margin of the gill-covers. The head is small and short; the jaws, when closed, are sharp or pointed,—lower jaw longest; the teeth are numerous, small and irregular. The eye is small and bright, irides yellowish red, and situated much interiorly; moustache smooth.

The surface of the body is covered by numerous small scales. The head and gill-covers are smooth.

The caudal fin is large, for the size of the fish, deeply falcate and strong; the external fin-rays are stout, strong and closely arranged; the central ones are short and membranous. The dorsal and abdominal fins arise nearly opposite to each other and rather posteriorly to the middle of the body. The anterior rays of the dorsal fin are much longer than the others, marked with a large black spot, but they rapidly get shorter posteriorly, so that the anterior part of the fin is somewhat falcate in shape; the fin posteriorly is small and reaches to within about half an inch of the tail. Anteriorly to the dorsal fin are six large and long spines pointing obliquely backwards, and anteriorly to them is another long spine more or less imbedded in the skin which lies horizontally and points forwards. The abdominal is similar in shape to the dorsal; anteriorly it is marked with a large dark spot, and the fin-rays are there longer than the others; and anteriorly to the fin are two long and large spines, which obliquely point backwards. The ventral fins are small and close together. The pectoral fins are small and short, and arise on a plane anterior to the ventral, and very near the gill-covers, and about the lower third of the body.

This fish was taken in deep water, and as it is rolled up in the net and much entangled, it seems to be a species of great muscular power, and consequently it swims with great rapidity.

Judging from the authors to which I have access, there seems to be much obscurity resting on the genus Lichia and the species included in it. To secure accuracy of representation in the present case my friend Alexander K. Mackinnon, Esq., has kindly taken a photographic portrait of it for me. This gentleman has very liberally and kindly taken the portraits of many of our Cornish fish, and many of them are exquisite specimens of the art.

Most of the old writers on Natural History, as Aristotle, Ovid, Pliny, Oppian, Athenæus, &c., mention the glaucus; and Pliny calls it glauciscus, which is supposed to be the same; but Cuvier doubts whether any, or at least most of those so mentioned, are the same that bear the name at the present time, and he seems also to think that the fish anciently bearing the name was the maigre (*Sciæna Aquila*). Rondeletius appears to be the first author who applied the name to the present species: he speaks of three species of glaucus, the first of which he calls by the provincial name "cabrotte;" the third of these is figured in Johnston's 'Historia Piscium,' pl. 1, fig. 11, and by him is called sinuosus, and so marked on the borders of the gill-covers with twisted lines. Ray, in his 'Synopsis Piscium,' considers these as distinct species; the generic name Lichia here first appears, and is said by him to be the common name of a species of this genus at Rome and Leghorn; but *this* he distinguishes from the three of Rondeletius. There seems to be some confusion as to the origin of the name: Rondeletius says it is from its colour, but it is used as a proper name both by Ovid and Pliny, and therefore not to be put in a feminine shape.

The present species is, I think, the glaucus of Rondeletius, and therefore the Glaucus secundus of Ray, p. 94.

The Lichia Amia of Cuvier is the Scomber Amia of Linnæus and Amia of Aldrovandus and Ray. The glaucus of Cuvier has a characteristic figure in his great work 'Icthyologie,' but the only other species he mentions is Lichia Vadigo, a native also of the Mediterranean; it has a longer body and a shorter tail than L. glaucus. It is true he has another species, but that belongs to the Coast of Africa.

I have been favoured with coloured tracing of two figures, from Col. Hamilton Smith, of Lichia glaucus, and this, by comparing the coarse wood-cut of Rondeletius with the recent fish, enables me to identify the species; but coarse as the cut is, it is very characteristic: he says, however, that the moustache is rough; in my specimen it is smooth.

The difference between this description of Rondeletius and the specimen I have in my possession is so small that there can be no doubt that he refers to this species.

R. Q. Couch.

Penzance, December 7, 1858.

Occurrence of the Black Fish (Centrolophus pompilus, *Cuv.*) *in Mount's Bay.*—A small specimen of this fish came into my possession last autumn twelve months, which was captured in a mackerel seine, in Groavas Lake, in Mount's Bay: it was nine inches long, and presented all the markings of the larger specimens which I have examined.—*R. Q. Couch; Penzance, December* 7. 1858.

Correction of an Error.—In the 'Zoologist,' (Zool. 5959) is a notice of the capture of Notidanus griseus, "a shark new to Britain, at Banff," by Mr. Edward; but if you will turn to Vol, iv. for 1846, p. 1337, you will there find it both figured and described, and I sent the MS. to you. Excuse my reference to the subject, but I thought it an oversight, and would remind you of it.—*Id.*

Abundance of Colias Edusa in 1858.—In June I took two very fine females and saw a third; in August and September the insect was very plentiful, and I took a great many, likewise five of the white variety: on the 15th of October, being a fine warm day, it was flying in great numbers on Norton Common, close to the sea; I had no net with me but I succeeded in capturing, with my hat, a fine white variety of it, which makes the sixth taken by me this season, and on Sunday, the 7th of November, I saw one very much worn: I should like to know if they have been seen in any other place so late as this.—*H. Rogers; Freshwater, Isle of Wight, December* 1, 1858.

Food-plant of Lycæna Agestis.—I have perused with great interest the different articles which have lately appeared in the 'Zoologist' respecting the identity of Lycæna Artaxerxes and L. Agestis, as well as on the habits, haunts, &c., of the latter species. As I have never had an opportunity of seeing L. Artaxerxes in its native localities, I cannot presume to express an opinion respecting the former part of the subject; but as I may say that I am tolerably well acquainted with the habits of L. Agestis, which occurs in this neighbourhood in abundance, I am induced to trouble you with these few lines, especially as I observe that many of your correspondents are either pledged to an opinion, or have had but limited opportunities of seeing L. Agestis in anything like profusion. I cannot help thinking also that much misapprehension arises from entomologists believing that what takes place in one locality must of necessity occur everywhere else. In the present instance the controversy respecting the connexion of the insect with Helianthemum or Erodium, strongly reminds me of the well-known fable of the "Chameleon," Mr. Harding's last communication especially, which is much in the style of the disputant who exclaims,—

> "And when before your eyes I've set him,
> If you don't find him black I'll eat him."

It does not follow because Mr. Harding finds L. Agestis where Erodium grows that it should not also occur where Helianthemum is found, and that it does so must be admitted by all who are at all acquainted with the chalk downs of the South of England, and Mr. Harding is certainly much mistaken when he wishes to make it appear that the insect is almost confined to the localities he mentions. L. Agestis is often very abundant on the Downs in this neighbourhood, where the Helianthemum is also plentiful, being dotted all over the soft short turf; whereas Erodium, if it occurs at all, cannot be in any quantity, as it prefers, I believe, the sand, of which there is little or none in this locality. At Caterham also (still on the chalk) it is very common (more so in August than in May), I find it flying in company with L. Alexis and L. Corydon, and sometimes with L. Alsus and L. Adonis. Here again the soil is chalk, and the commonest plants are Hypericum, Origanum, Helianthemum, plenty of wild thyme, &c., but not, I think, Erodium, or at any rate very little, as I have never observed it at all. I have also taken L. Agestis at different times in localities so far from the chalk or sand that I am certain there was neither Erodium nor Helianthemum within miles; and, both this season and last, the insect occurred on the bank of a canal at Norwood, far from either of the above plants, and so far from the localities where it is found in abundance that I cannot think it could have been driven there by stress of weather. I cannot help thinking therefore that the larva will be ultimately found to feed on more than one plant, or at any rate on some one of more general distribution than either of those which are now believed to be its food-plants; this question, however, I trust will be decided next season, as this controversy will no doubt lead many to look for the larva. I am, however, exceedingly surprised at a man of Mr. Harding's experience asking why the insect is not found in plenty where Helianthemum is abundant? My reply is that it frequently is, and that I should have thought that Mr. Harding must have visited Riddlesdown in August at some time or other; if so, he must have been aware that both Helianthemum and L. Agestis were common there, and if he has not I advise him to do so, and I am convinced that "one trial will sufficiently prove the fact."— *W. H. Morris; Croydon, December* 3, 1858.

Notes on the Food of Sphinx Convolvuli.—The Editor of the 'Zoologist' says (Zool. 6311), "I agree with Mr. Harding that the fact of an insect settling on the blossoms of a plant proves nothing as to the food of the larva: Sphinx Convolvuli obtained its name from the propensity of the imago to suck the honey of tubular flowers, but the conclusion was a most rash one, and has led hundreds to seek the larvæ among the leaves of the bindweed." The former statement is certainly true, but the latter is as certainly a curious mistake, which the Editor, as a lover of the truth, will, I am sure, allow me to correct. Roësel, in 1746, figured the larva, pupa and imago (Fas. vii. Class 1, Pap. Noct.) without a name, and says expressly that the larva fed on Convolvulus sepium and arvensis. Linneus, in the 'Systema Naturæ' (1767), quotes Roësel, and describes the insect as "Sphinx Convolvuli," deriving the name, there can be no doubt, from the food of the larva. Sepp again figured the larva in his 'Beschouwing der Wonderen Gods' (Tab. 49), and states that he reared it on the leaves of Convolvulus. Treitschke says he reared numbers on the leaves of Convolvulus arvensis (*Schmett. von Europa*, S. 139). Duponchel makes a similar statement (*Iconographie des Chenilles*). In the 'Annales de la Société entomol. Belge,' 1857, p. 40, I find the following under Sphinx Convolvuli, "Chenille en juillet et en août sur le liseron (Convolvulus arvensis, *L.*), la belle jour (Mirabilis Jalapa, *L.*) et quelques espèces d'Ipomea cultivées dans les jardins." Lastly, in Stainton's 'Manual' vol. i. p. 90, there is the following remark: "Mr. Atkinson informs me that in July, 1838, he found five or six larvæ of this insect feeding on a bed of the wild balsam (*Impatiens noli-me-tangere*) a few miles from Dolgellan, in Merionethshire, on the road to Bala." There can, therefore, I think, be no doubt that the name Convolvuli is derived from the food of the larva, although it would seem that sometimes other plants than Convolvulus are eaten. Several of the authors I have quoted say that the larvæ always hide themselves under ground or among leaves on the ground, except when they are feeding, but that occasionally their retreats are discovered by finding the excrement, the pellets of which are very large.—*J. W. Douglas; Lee, December* 8, 1858.

The Reason for the Specific Name of Sphinx Convolvuli.—In a note appended to Mr. Harding's paper "On the food-plant of Polyommatus Artaxerxes and P. Agestis" (Zool. 6311), Mr. Newman states that "Sphinx Convolvuli obtained its name from the propensity of the imago to suck the honey of tubular flowers." I should be glad to see the authority for this statement. I suppose Linné gave the name Convolvuli to this hawk-moth, from the food of the larva being Convolvulus, relying on the assertions of previous observers to that effect. Before Linné appeared, Madame Merian figured the larva sitting on Convolvulus arvensis, and wrote that it fed on the root. A. J. Roësel, in 1745, mentions, in his 'Insecten-Belustigung,' that the food of this species consists of the green leaves of the white and red-coloured bindweed, and not of the root, as stated by Madame Merian, and that he fed the caterpillar on the same leaves with success: he adds that the female deposits her eggs singly on the same plant, and that the caterpillar is sometimes found on the great bindweed.—*T. Chapman; Glasgow, December* 6, 1858.

[I am extremely pleased that my note has called forth these communications. I have always regarded Madame Merian's statement, that the larva fed on the root of the bindweed, as an error, and the transference of its *locus edendi* from the root to the leaves a plausible and probable theory, but not an established fact.—*E. N.*]

Sound Produced by the Larva of Acherontia Atropos.—I have read Mr. J. E. Weatherhead's account of the larva of A. Atropos producing a singular sound, which he has likened to the sound produced by the sparks of an electrical machine. Has he not mistaken it for the sound produced by other larvæ feeding in his breeding-cage? for I have this season raised sixteen specimens of A. Atropos, and have often heard the sound so well described by Mr. Weatherhead, but always attributed it to the other larvæ in the same breeding-cage biting their food (Carduus angustifolia), the leaves of which are hard and scabrous. The larvæ of A. Atropos are very common about Poona.—*Julian Hobson, Lieut. 3rd Regt. Bombay N. I.; Poona, near Bombay, October* 14, 1858.

Specific Names: Food of the Genus Acronycta.—Sergeant Johnson brought me a full-grown larva of Acronycta Alni for identification on the 24th of August: it was beaten from a horse-chestnut tree, on which it fed freely. Mr. Cook, in the 'Intelligencer,' writes that he fed it upon alder; Mr. Brown, in the 'Naturalist,' that he found it on willow; Mr. Anderson fed it upon lime; I have fed it upon thorn, which it preferred to all other food offered: Mr. Greening also fed it upon thorn: a friend here fed it upon sycamore, and I have known it successfully bred upon bramble. What, then, is its food-plant? It appears to me that many species of this genus are queerly named: A. Alni, a general feeder, is called after one plant; A. Menyanthidis, which undoubtedly feeds better upon sallow and whitethorn than upon anything else, after a plant I never knew it eat; A. Salicis, which is a variety of A. Menyanthidis, I possess bred from thorn by Mr. Hague; A. Rumicis will eat anything, but I never saw its larvæ on its titular plant; A. Ligustri I have bred upon ash, &c.; and A. Myrica is a sallow-feeder: thus, of all the plant-named species in this genera, except A. Aceris (which I know nothing about), we see they do not feed upon the plants they are named after; and of A. megacephala, a poplar-feeder (about which I see little to call in Greek on its head), and A. auricoma (not particularly yellow-haired, unless we take its name from its larva) finishes the genus, except A. strigosa, about which I know nothing whatever, except by hearsay. How our 'Gradus' friends are to get through this little dilemma remains to be seen, but it strikes me that to stumble upon many such rocks as these will spoil their "little game," because it is to be hoped they will not perpetuate errors by telling us that "A. Alni is called after its food-plant" (which it certainly is not), and so on of the others. In common with many other practical men, I am anxious to see a specimen of the 'Gradus' before we subscribe for it; if, as has been recently hinted, it is only to be "An Accentuated List," it will not be worth the paper it is printed upon to a scholar, and of no earthly use to those who are not scholars, and the mass of entomologists are not scholars; still they wish to know what certain names mean, but will for ever pronounce them in the dialect of their district, however it may jar upon Scotch or English ears. All the fine points of accentuation will go for nothing without a full explanation of how they apply, because, as I have said before, those who are not scholars, in the full acceptation of the term, cannot apply the points, and those who are scholars do not require it to be done for them. Of the two species in the genus Semaphora (S. tridens and S. Psi), and one in Apatela (A. leporina), the two first are general feeders, but prefer osier and long-coned or Winchester willow, whilst A. leporina is confined to birch, on which it is a canary-coloured larva, and to black or trembling poplar, on which its larva is white, with a slight, light green tinge, generally producing the variety bradyporina.—*C. S. Gregson; Fletcher Grove, Stanley, near Liverpool.*

Note on the Habits of Heliothis marginata.—As I last year took a hundred, or somewhat more, of the larvæ of Heliothis marginata, I can form a tolerably good idea of its habits, and as it may interest some, especially young entomologists, I forward this account. The larvæ are subject to considerable variation: the typical larva, or variety, which is most plentiful, is pale or rather yellowish green, with a deep green dorsal line; subdorsal lines whitish yellow and generally narrow; spiracular lines yellow, bordered on the upper margin with white; the yellowish green ground-colour is freckled over with white, and is mingled with gray near the spiracular lines, above which, on each segment, there is a black dot.

Var. 1. Ground-colour reddish claret, with a dull black dorsal line; subdorsal lines yellowish and inconspicuous; spiracular lines yellow and conspicuous. Between the dorsal and each subdorsal line there are two rows of black dots; between the subdorsal and spiracular line the colour is blackish gray, with one row of black dots; between the spiracular lines and bases of legs there are two rows of black dots. In the colour of its back this variety somewhat resembles the larva of Notodonta dictæoides, and is not uncommon.

Var. 2. Deep greenish gray, freckled with white; dorsal line black, bordered with white; subdorsal lines yellow and conspicuous; spiracular lines broadly yellow, with a white upper margin. Between the dorsal and each subdorsal line are two rows of black dots; between the subdorsal and spiracular lines the ground-colour is deeper gray, with two rows of black dots; between the spiracular lines and bases of legs there are two rows of black dots. Less frequent than the last variety. The typical larvæ, as well as varieties 1 and 2, vary in depth of colour and distinctness of markings.

Var. 3. Ground-colour yellow, with an inconspicuous dull gray dorsal line; subdorsal lines yellow and narrow; spiracular lines broadly yellow, bordered on the upper margin with white, and above that with gray. A scarce variety. These larvæ feed on rest-harrow (*Ononis arvensis*), and are full-grown in the latter half of August: they live exposed, and many of them might, at first sight, be mistaken for larvæ of Hadena oleracea: they seem very subject to the attacks of ichneumon flies. The pupæ are subterranean, and are inclosed in earthy cocoons. The perfect insects, in a state of nature, fly from the middle of June to the middle of July, are lively, and come sparingly to syrup.—*J. F. Brockholes*; 16, *Cleveland Street, Birkenhead.*

Crymodes exulis a British species. Translated from the 'Stettiner Entomologische Zeitung,' by J. W. Douglas, Esq.

[When Dr. Staudinger was here lately on a visit, he showed me about a dozen of the most striking of the varieties of this moth which he had collected in Iceland in 1856; and certainly they appeared so different from each other that almost every one might have been considered, *per se*, to be a distinct species, and it is no wonder that they have been so considered and have received so many names. He then told me that Hadena assimilis, *Doubleday*, which he had just seen in Mr. Stainton's collection, was no other than one of the dark varieties, and among his specimens there was one which so exactly represented our insect as to leave no doubt about the matter.

I have thought it might be interesting to our English entomologists to read the following remarks of Dr. Staudinger about the species, and have translated them from his paper "Reise nach Island zu entomologischen Zwecken unternommen" published in the 'Stettiner Entomologische Zeitung' for July, 1857, p. 238. The occurrence in the Isle of Arran of this species, hitherto found only in the Arctic Circle, is also a fact worthy of note, and it may happen that Hadena Sommeri and some of the other new Lepidoptera found by Dr. Staudinger in Iceland, and which he has enumerated in his very interesting paper, may also yet be found in the North and North Western Islands of Scotland, especially now that attention is directed to the subject.—*J. W. D.*]

HADENA (?) EXULIS.

Fusca seu nigricans, ferrugineo-mixta, alarum anticarum lineis maculisque dilutioribus, costis albicantibus, macula reniforme extus excavata. Magn. 32—45 mills. (38—40 mills.)—♂ ♀. *Lefebv.*, *Annales de la Soc. Ent. de France*, v. p. 392, pl. x. fig. 2, ♂. *Dup. Suppl.* iii. p. 588, pl. 49, fig. 2. *Boisd. Ind. Méth.* p. 119.

Crymodes exulis, *Guenée*, *Noctuélites* i., p. 185.
Hadena gelata, *Lefebv.*, l. c. p. 393, fig 3, ♀. *Dup.*, l. c, p. 590, fig. 3. *Boisd.*, l. c. p. 119 (Catalog. name).
Polia gelata, *Herr.-Schæff.*, *Syst. Bearb. d. Schm. v. Eur.*, ii. p. 267, fig. 452, 453.
Crymodes gelata, *Guenée*, l. c. p. 186.
Hadena Grönlandica, *Dup.* l. c. p. 288, pl. 21. fig. 3, *a*, *b*. *Boisd.* l. c. (Catalog. name), *Freyer*, *Neuere Beitr. Taf.* 411, fig. 3 ? *Zetterst.*, *Ins. Lapp.*, p. 939.
Polia Grönlandica, *Herr.-Schæff.*, l. c. p. 274, fig. 151.
Crymodes Grönlandica, *Guenée*, l. c. p. 185.
Hadena borea, *Boisd.*, l. c. p. 119 (Catalog. name).
Polia borea, *Herr.-Schæff.*, l. c. vi., p. 55, fig. 566 ♂, 567 ♀.
Crymodes borea, *Guenée*, l. c. p. 186.
Mamestra cervina, *Germ.*, *Faun. Ins.*, *Eur. Fasc.* 12, No. 19.
Neuria cervina, *Herr.-Schæff.*, l. c. ii. p. 291, fig. 451. Marmorata, *Zett.*
Exarnis difflua, *Hub.*, *Geyer*, *Zutr. z. Samml. exot. Schm.* p. 9, fig. 411.
Noctua arctica, *Thunb. in litt.* (*Mus. Berol.*).

Crymodes gelida, *Guenée*, l. c. p. 186, pl. 4, fig. 7.
„ Poli, *Guenée*, l. c. p. 187.
? Hadena marmorata, *Zetters.*, *Ins. Lapp.*, p. 937.
? Noctua oleracea, L. *(Kaupmans Fidrilde) Mohr, Isl. Naturh.* p. 90.

Var. a. Alis anticis nigris, albido-marmoratis ♂ ♀.
Var. b. Alis anticis nigris, fascia media lata pallidiore ♂.
Var. c. Alis anticis nigro flavo albidoque variegatis ♂ ♀.
Var. d. Alis anticis flavescentibus, nigro-adspersis ♀.
Var. e. Alis anticis flavescentibus, albido-marmoratis.
Var. f. Alis anticis concoloribus griseis, nigro-lineolatis ♂ ♀.
Var. g. Alis anticis concoloribus fuliginosis ♂ ♀.
Var. h. Alis anticis concoloribus ochraceis ♂.
Var. i. Alis anticis fuscis, linea exteriore maculisque flavis ♂ ♀.
Var. k. Alis anticis nigris, maculisque flavis ♂ ♀.
Var. l. Alis anticis nigris, maculis albis ♀.
Var. m. Alis anticis concoloribus nigris ♂ ♀

No Noctua known to me varies more than the foregoing. To this cause in part is due that it is so surrounded with synonyms, and a further reason of the confusion is that authors mostly made their descriptions from very worn specimens. First, Duponchel says in the description of his Grönlandica, that he quite thinks it agrees with one of Lefebvre's species, but Lefebvre's original specimen is so bad that from it nothing can be decided. Exulis, *Lefebvre*, was already, by other authors, with the greatest propriety, placed as the male of gelata. Duponchel described this species very recognizably as Grönlandica, and indeed in the same year, 1836, in which it was published as exulis and gelata, of Lefebvre. But as Duponchel already, in his Grönlandica, mentions the exulis and gelata of Lefebvre, so must the latter name necessarily appear to be the earlier, and therefore the name exulis, given to the male, is chosen for the species. The mere Catalogue name borea, *Boisd.*, is of no value; but the original in Boisduval's collection proves to be perfectly identical with exulis. Dr. Herrich-Schäffer places this species under two genera, Polia and Neuria, as gelata, Grönlandica, borea, and cervina. These prove to be the best of the types of Messrs. Kaden and Pogge apportioned to the descriptions of Herrich-Schäffer. So also the Mamestra cervina, *Germar*, brought from Iceland by Kaden, is only exulis. Eversmann described in the "Bulletin de Moscou" for 1842, another Noctua as cervina, which

Herrich-Schäffer (fig. 163 and 164) figured, but it has nothing to do with cervina, *Germar*, and the name must therefore necessarily be changed. Exarnis difflua, *Hub.—Geyer*, received from Greenland by Sommer, belongs here, without the least doubt. A single undoubted specimen of this species stands in the Royal collection at Berlin under the name of "arctica, *Thunb.*" All the species erected by Guenée (l. c.) into his new genus Crymodes belong here, with the exception of Sommeri, of which, indeed, only one female is known, and it does not bear the characters of the genus. The description of his gelida, and still better the figure, prove that it also belongs here; yellow as this example is, I possess the species still more yellow. His Poli can also only belong here. To make a genus for itself out of this species has certainly much in its favour. Grönlandica, *Freyer*, is certainly exulis; Grönlandica, *Zett.* I place here only with a ?, because the description also applies to Sommeri. Marmorata, *Zett.*, referred here by others with the greatest certainty, I also place with a ? in the absence of certain proof. Zetterstedt found it in Southern Lapland, but I did not see the species in the Royal Museum in Stockholm. Oleracea, *Mohr*, can only be referred here, on account of its time of appearance; conflua which also flies at the end of June, is put by Mohr as Vaccinii.

I have about four hundred examples of exulis from Iceland, and about twenty from Greenland before me, and scarcely one specimen is like the other in its variation. Also with respect to the variation the examples from Iceland are more important than those from Greenland, which are more uniform and like to each other. The smallest specimen (32 mills.) is a black female from North Iceland (Myvatn); the largest is a male from Julianahaab, in Greenland (45 mills.) Those from Greenland are large throughout, the smallest nearly reaches 37 mills. The largest of those from Iceland attains only the length of 43 mills., the average is 38—40 mills.

The variations in colour and marking in this species are truly incredible; only for the purpose of having the necessary forms of variation I am obliged to keep about one hundred specimens of exulis in my collection. The foregoing short diagnoses of the chief varieties give but a poor idea of the endless varieties themselves; even the best descriptions could here avail little; the differences could best be seen by a series of good figures. But the knowledge of the early state shows that not the least doubt of the specific identity of all the above-mentioned specimens can exist. About two hundred specimens were reared, and further, we often found the varieties of the species *in copulâ*; in short our observations made on the spot leave not the least doubt about the matter.

The abdomen is the least variable in its colour, which is ash-gray, sometimes with a shade of yellow. The thorax is much more variable, frequently gray with two dark stripes on the shoulders. But it is nearly black in black varieties, whitish in the light-coloured ones, yellow or brown in others, and often it becomes of a variegated mixture of different colours. The head in its different parts varies like the thorax. The tongue always remains yellow-brown. The antennæ of the male are slightly serrated, and beset with a double row of short hairs. The hips, thighs and tibiæ are mostly gray; tarsi darker, the end of each joint annulated with brighter colour. The colour of the spurs on the tibiæ is very varied.

It is scarcely possible to determine the normal characters of the fore wings, but the ordinary ground-colour may be considered to be a gray black with a shade of brown or ferruginous, and the usual markings to be four transverse lines, one of them at the base, two enclosing the centre, and one on the outer margin; the colour of these lines is generally dingy yellow-brown. The round and reniform stigmata are filled in more or less white or yellow. The ribs are also white. The claviform stigma is rarely clear, but still more rarely is it particularly coloured. The outer transverse line (which is sometimes wanting) is either regularly toothed or bears two M-formed projecting teeth. Frequently the whole portion exterior to the third transverse line is of a uniform dark colour. The same thing sometimes occurs before the second line, in which case the middle of the wing is pale, making the *var. b.* The *var. a.*, in which the transverse lines are white and the ground-colour nearly black, is scarce. Sometimes the black, white and yellow colours proceed very clearly through each other, being the *var. c.* In one specimen the fore wings are dingy yellow, sprinkled all over with black atoms, and a dark transverse outward line, *var. d.*; where the ground-colour is also yellow, but the markings are very white, we have *var. e.*; in one example nearly the whole of the costa is white. The varieties with the fore wings entirely pale gray, and only the transverse lines and the circumference of the stigmata slightly dark, are particularly marked out as *var. f.* The same holds with those having the ground-colour rusty, *var. g.*, and intermediate gradations are not wanting here. In one male the fore wings are almost entirely of a uniform ochreous, *var. h.* In another they are almost copper-red, with dark lines, and only on the ribs white. Many specimens are dark rusty, and the outer margin and both stigmata are yellow, *var. i.* Sometimes only both the stigmata are yellow. There are also varieties with the wings entirely black, the stigmata alone yellow, *var. k.*; or with quite white stigmata, *var. l.*: in the latter case there are some little spots in the vicinity of the stigmata also whitish. The fore wings are perfectly black only in a single specimen from the North, *var. m.*; in a female they bear a yellow toothed line on the outer margin. In one female from the North they are dark with a brassy gloss, but the stigmata and lines are pale. The form and size of the somewhat-rounded stigma vary greatly; it is seldom exactly circular, often elongated oval, often very small, and, in a single instance, it runs into the reniform stigma. Lastly, although it appears so different in form and size, its outer side is always evenly curved, and only in very small specimens is this difficult to recognise.

The hinder wings are gray, paler towards the base; frequently a distinct darker lunate spot is visible at the end of the median cell, and often a distinctly marked undulating line somewhat behind the middle of the wing; on the under side this is very distinct, as also is the lunate spot. In dark varieties the under side of the hind wings is either entirely dark or only rather dark on the outer margin, while the rest of the wing is entirely pale, with a black lunate spot. On the under side of the fore wings an undulating line like that on the hinder wings is generally distinctly placed, but it is at times entirely wanting; behind it and the outer margin the colour is sometimes much lighter. On the under side of all the wings before the cilia is a connected row of very rudimentary lunate spots. The cilia of the hinder wings are, with very little exception, light, mostly yellow or gray at the base. On the fore wings they vary much, and are gray, white, brown, black or mixed, but never regularly dappled with light or dark colour.

On the 16th of June I first found a newly-disclosed male sitting on the grass, but the end of the same month was the chief time for the appearance of this species. Their flight in the evening was very swift, but later in July, they also frequently flew in the day-time, often in the hottest sunshine, and settled on various flowers, giving preference to Thymus Serpyllum, Silene maritima and Armeria maritima. In August they still flew about singly; on the 15th of July the last female appeared from the pupæ collected by us.

The history of the early states of this moth is as interesting as instructive, because it shows that not only pupæ but also larvæ of one and the same species can remain as such for two or perhaps more years. On the 15th of June we first found several pupæ of our exulis, of which one was apparently not quite fresh. By means of very zealous rakings in the high moss, we managed, by the beginning of July, to find about thirty pupæ of the species; and we obtained a good many in those places in particular where the moss grew sparingly among the grass. In these rakings (also early in May, near Reykjavik) we found besides some pupæ of conflua, together with larvæ and pupæ of Graminis, another dingy white species of larva, in all about thirty specimens of various sizes. Some appeared to be full-grown and measured about 40 mills., some were hardly half so large, and others still smaller. All were decidedly healthy, with the exception of some large ones infested with larvæ of Ichneumons. The best proof of their healthiness was that the smaller ones increased visibly in size and cast their skins. The largest would, nevertheless, not assume the pupa state, and at our departure on the fifteenth of August, they were no larger than when we found them at the end of June. When these larvæ ate for themselves ways and cavities in the moss, we at first thought they fed on moss; but here we were mistaken, for their proper food consisted of the lowest portion of the stems of grasses, or the roots. This was chiefly the reason why most of them died on board ship, where we had only moss to give them; some of them there also, in storms, came in contact with the sea water; nevertheless we brought some home in a healthy state. These larvæ were those of our exulis.

We had found in the latter half of July a number of worn females of exulis, which laid eggs. They were put into a large, airy case with grass and flowers therein, but we could not find any eggs; indeed some were already dead. There we saw on the 26th of July, during the hottest mid-day sunshine, a female sitting on the thick lower part of a stem of Poa alpina. Kalisch wished to take it off, but to our amazement it sat fast on the stem. The last segments of the body were moving about in a nearly perpendicular position, and the ovipositor almost bored into the stem. By further observation we found several holes made by the ovipositor into the narrow sheath-leaves of the stem, between which and the stem were laid about one hundred eggs. I now examined the stems placed with the imprisoned moths, and found a quantity of eggs deposited in a very similar manner. The eggs are almost disk-shaped, which, except for their peculiar position, they would not be. They are smooth, yellowish brown, and small in proportion to others; for example, about half the size of those of E. Graminis. After two or three weeks the young larvæ appeared and as long as their size permitted they remained on the grass-stem and gnawed it; then they loved to feed on that part of the stem which is just above the root, but they also ate down into the root itself, and appeared only exceptionally to feed on the leaves.

About the middle of September we took out the caterpillars produced on the grasses brought from Iceland; at that time they were all (about fifty) 5 to 8 mills. in length. At the end of November I again examined them, and found, to my great astonishment, that about five were already nearly as large as the largest specimens found in Iceland, the perfect identity of which with our exulis reared from the eggs was now as clear as day. About nine were half grown, and of the remaining six or eight still living ones, some were scarcely larger than they were in September. These facts, taken in connection with those observed in Iceland, are sufficient proof that our exulis sometimes passes one, two or even three winters in the larva state.

The young larva, when it comes out of the egg measures 2·5 to 3 mills. in length. With the exception of the darker head and lighter anterior feet, the colour, position of the spots and habit, are exactly like those of the full-grown larva. The first pair of prolegs are not very much shorter than the hinder ones. The position of the little hooks on the prolegs in the semicircle on the inner side of the lower plate is just the same in the adult larva, except that the number of the little hooks, now eight to ten, is then twelve to fourteen. The full-grown larva is 42 to 46 mills. long. It has no resemblance whatever to any larva of Hadena or Polia that I know. The hinder segments gradually but perceptibly diminish in breadth after the seventh or eighth. The colour is dirty white with a shade of gray, the head chestnut-brown, the plate of the thoracic and anal segments and the anterior feet yellowish. The labrum and eye-marks are rather dark, and just where the hemispheres join are two dark spot-like depressions. The head is scarcely half as broad as the following segment, which, on the upper side, is entirely overlaid by the exceedingly strong thoracic plate. The second and third segments bear on the upper side several very obscure dark spots, which are scarcely distinguishable from the ground-colour. The position of the spots appears to agree with other Noctua larvæ. The slightly raised spots always bear a rather long reddish hair springing from a dark speck. The thirteen segments of the larva, as shown in my "Dissertatio de Sesiis agri Berol." are here very distinctly seen. The rudimentary stigmata are always very distinct on the twelfth segment, and mostly appear close under the fore part of the anal plate. The anal plate itself is very strong, in form a somewhat elongated semicircle, and bears as usual eight hairs.

The larvæ appear to assume the pupa-state at the end of May or beginning of June, within a cavity eaten into the moss or turf, not far from the surface. The pupa is chestnut-brown and very lively; it has a dark, often very conspicuous cremaster which is broadly obtuse at the end, bearing at each angle two strong, sharp bristles. The skin thrown off the larva very frequently remains attached to the cremaster. The moth appears in from four to eight weeks, and the empty pupa-cases are then very fragile and of a pale yellow colour. A large number of the larvæ were ichneumoned, and, from the 16th of July to the beginning of August, the pupæ furnished some fifty specimens of Ichneumon luctatorius var., *Wesmaël*, of which first the males and then the females appeared. In one full-grown larva I found a quantity of small white cocoons; at the end of July they produced Pterilitus islandicus, *Ruthe*, a species that also comes from E. Graminis.

Hadena exulis, according to the best authority, is as yet only found in Labrador, Greenland and Iceland. Duponchel and Boisduval give also the North Cape and Finland for Grönlandica, which is certainly this species; but both these authors err very often in giving the native countries of species. If marmorata, *Zett.*, belongs here, as is very probable, then the species is also found in South Lapland, but this matter requires confirmation.

Occurrence of Sophria emortualis at Brighton.—A single specimen of this Deltoid, new to Britain, was taken in a garden at Brighton, on the 18th of June last, by Mr. Pocock. This locality seems more productive of novelties than any other part of Britain.—*Edward Newman.*

The Genus Oporabia. — In reply to Mr. Logan's question (Zool. 6285), I may say I formed my opinion of Oporabia autumnaria from specimens taken at Delamere Forest by Mr. Greening and myself, Mr. Greening having submitted his specimens to our friend Mr. Doubleday, who returned them as Oporabia autumnaria! I have a series in my cabinet under the name of O. approximaria, bred from birch; the females, to my eye, being distinct in form. I have also a specimen which I bred in August, from larvæ, taken on the 19th or 20th of June, feeding in catkins, on sallows which grow on the centre ride in Wharncliffe Wood, Yorkshire: this insect has been submitted to Mr. Doubleday, who returned it as a variety of O. dilutaria: Mr. Bond has also seen it and decided it was O. dilutaria; it is exactly like O. borearia in the upper wings, but has a band across the elongated under wings, as in O. approximaria, not parallel with the cilia, as in O. dilutaria; I call it O. precursaria. I shall be glad to assist any one or more friends who will work out this question in a friendly spirit; to all others I am dumb. When Mr. Weaver brought his large specimens of O. dilutaria from Scotland as O. autumnaria, *Boisd.*, only one gentleman in

Lancashire bought a specimen, as it was considered not distinct from O. dilutaria: that gentleman wrote to me in these words, "I placed it in my cabinet as O. autumnaria, because I had heard there was such a species." I confess I feel little confidence in the opinion of one who lets an insect remain unexamined in his cabinet for so many years, when it was only placed there because he had heard there was such a species. I do hope that my friend Mr. Logan, who once promised to publish the Scottish Lepidoptera, will make a point of figuring this genus in particular, and shall be glad to render him any assistance in my power. I think it would be exceedingly interesting to the readers of the 'Zoologist' to know if the specimens bred by him from birch and the specimens bred by Mr. Wilson from heath resembled those taken by Mr. Cooper and Mr. Weaver in Perthshire. One word more and I have done: the habits of the October and November insects are so different that any one can tell which species he is about to take: O. dilutaria flies off the tree bole rapidly and generally upwards, O. autumnaria is one of the most sluggish flyers: an old friend once observed to me, "Nay, don't hurry; autumnaria won't go fast or far." — *C. S. Gregson*, *Stanley*, *Liverpool*, *November* 14, 1858.

[Will Mr. Gregson obligingly supply the cabinet of the Entomological Club with a series of each species? they will then be accessible to all inquirers.—*Ed.*]

Note on the Turnip Nigger (Athalia centifoliæ). — This year the turnip nigger has been very destructive in this district, and acres of turnips have been stripped of their leaves. I did not notice them in any number till the first week in August, when the weather was very hot and dry, so that they throve and increased amazingly. On the evening of the 18th we had a severe thunderstorm with a heavy dashing rain; the two or three following days were showery, and I think a great many were killed; the turnips afterwards grew very fast, so that those niggers left did but little damage. I quite believe if the fine and hot weather had continued another fortnight the turnip crop would have been nearly destroyed. But what strikes me as very singular is that there is a second brood, which are, I think, even more numerous than the first, though of course they will not do so much damage, as there is more food for them. This time they have taken to the oldest turnips on the farm, which were not touched in August: hundreds of the caterpillars are upon them now, though they are not so numerous as they were a fortnight since; the severe frosts of last week did not seem to affect them in the least.—*Thomas Dix; West Harling*, *Norfolk*, *November* 16, 1858.

The Turnip Nigger.—May I ask "Rusticus" to be so good as assist me to the name of a black larva that is ravaging the turnips to such an extent, as to leave little else but the mid-ribs of the leaves. A whole field of many acres in extent is completely devoured by the little blackamoors. In Lincolnshire the little creature is known by the name of the "Black Jack;" but whether it changes to fly, ichneumon or beetle is a perfect mystery to the rustics in those parts. The larva is the thickest at the head and tapers slightly towards the tail. It is furnished with six legs in front, and with tentacles downwards to the tail; the exuvia is annulated, the annulations being concolorous.—*Peter Inchbald; Storthes Hall, near Huddersfield, October* 21, 1858.

[It is the Athalia centifoliæ, figured in 'Rusticus,' page 102.—*Ed.*]

Late Swarm of Bees.—The latest date that I have met with for a swarm of bees was the 13th of September, and I was much surprised to be called into my garden this day, at half-past one o'clock, to witness a swarm from my own hives; it was very small and did not settle as usual, but took an easy flight and was lost after being followed a quarter of a mile.—*W. R. Morris; Kent Water Works, Mill Lane, Deptford, October* 16, 1858.

Occurrence of Thalassema Neptuni and a new species of Zoanthus in Torbay.—Amongst a rich variety of animal life procured by dredging near Torbay, on the 14th of October last, I was so fortunate as to obtain a specimen of Gaertner's spoonworm (*Thalassema Neptuni*), a species of Echinoderm that Professor Forbes was not lucky enough to see alive. In his work on the British members of that class he quotes Montagu's description of this species, which is given with that naturalist's usual minute accuracy. This curious animal appears to be confined to the western coasts of our island. A still greater prize, taken at the same time, was a small species of Zoanthus, which differs in so many essential characters from Zoanthus Couchii,—the only recorded British member of this tropical genus,—as to lead to the conclusion that it is undescribed. It was found in ten or twelve fathoms water, at about a mile from the eastern headland of Torbay, and, from the fact of three separate groups of them being obtained, the species will probably be met with again in the same neighbourhood. A full description of this interesting compound zoophyte will shortly be published.—*E. W. H. Holdsworth; 26, Osnaburgh Street, November* 9, 1858.

Proceedings of Societies.

ENTOMOLOGICAL SOCIETY.

November 1, 1858.—Dr. GRAY, President, in the Chair.

Donations.

The following donations were announced, and thanks ordered to be presented to the donors:—'Annales de la Société Linnéenne de Lyon,' Tomes iii. and iv.; presented by the Société Linnéenne de Lyon. 'Annales des Sciences Physiques et naturelles, d'Agriculture et d'Industrie, publiées par la Société impériale d'Agriculture, &c. de Lyon,' 2ième Serie, Tome viii., 3ième Serie, Tome i.; by the Society. 'Mémoires de l'Académie impériale des Sciences, Belles-lettres et Arts de Lyon.' Classe des Lettres, Tomes v. and vi.; Classe des Sciences, Tomes vi. and vii.; by the Society. 'Verhandlungen des zoologisch-botanischen in Wien,' Vol. vii.; also 'Personen-Orts-und Sach Register der fünf usten Jahrgänge der Sitzungsberichte und Abhandlungen;' by the Society. 'Proceedings of the Literary and Philosophical Society of Liverpool,' No. 12; by the Society. 'Exotic Butterflies,' Part 28; by W. W. Saunders, Esq. 'List of Specimens of Lepidopterous Insects in the Collection of the British Museum,' by Francis Walker, F.L.S., &c., Part xv. Noctuidæ; by the Author. The 'Zoologist' for November; by the Editor. The 'Literary Gazette' for October; by the Editor. The 'Journal of the Society of Arts;' by the Editor. A 'Manual of British Butterflies and Moths,' No. 22; The 'Entomologist's Weekly Intelligencer' for October; by H. T. Stainton, Esq. Six specimens of Agrotis saucia; by F. Bond, Esq.

Election of a Member.

Robert Slade, Esq., of 36, Gillingham Street, Pimlico, was balloted for and elected a member of the Society.

Exhibitions.

Mr. Stainton exhibited a specimen of a new British Noctua, Micra parva, taken at Torquay by Dr. Battersby: that gentleman had made a careful investigation of the cliffs at Torquay, in June last, in consequence of his daughter having met with a specimen of Micra ostrina, and the result was several more specimens of M. ostrina, and with them two M. parva, which he at first mistook for small females of M. ostrina: "they lay very close amongst the grass and brambles, and when disturbed did not fly more than a yard or two."

Mr. Gorham exhibited the living larvæ of Coleophora Virgaureæ, from Westerham, Kent.

Mr. Westwood exhibited beautiful examples of Acherontia Atropos and Sphinx Convolvuli, and remarked on the usefulness of setting out the legs of specimens of Lepidoptera, which has hitherto been much neglected by entomologists in this country.

Mr. Smith exhibited, on behalf of Mr. Plant, the following Coleoptera, *viz*:—Tropiderus sepicola, from Buddon Wood; Zeugophora flavicollis, from Martinshaw Wood, Lincolnshire; and Orsodacna humeralis, captured in Birkland Forest, Nottinghamshire.

Mr. Stevens exhibited some fine Coleoptera, taken by Mr. A. R. Wallace in Celebes.

Mr. Westwood exhibited an ant, from South America, destitute of eyes; the specimen had been obtained by him on his recent visit to Denmark. Mr. Smith believed the insect pertained to the genus Eciton.

Mr. Bond exhibited, on behalf of Mr. A. F. Sealy, two specimens of Luperina Dumerilii, taken in the South of England during the past season.

Mr. Stevens read some extracts from a letter received from Mr. Diggles, of Moreton Bay, on the Entomology of that part of Australia, and stated that he had received a letter from M. Mouhot, who had undertaken a journey to Siam in quest of objects of Natural History, announcing his arrival at Sincapore in September last.

Mr. Wilkins observed that he had lately had a female of Acherontia Atropos brought to him, which, on being placed under a tumbler, had deposited eggs; it was usually considered that the autumnal specimens of this and other allied species were invariably barren.

Mr. Dutton had lately obtained a female of Acherontia Atropos which contained no ova.

December 7, 1858.—Dr. Gray, President, in the Chair.

Donations.

The following donations were announced, and thanks ordered to be presented to the donors:—'Bulletin de la Société Impériale des Naturalistes de Moscou,' Année

1857, Nos. 2—4; 1858, No. 1; presented by the Society. 'Journal of the Proceedings of the Linnean Society,' Vol. iii., No. 10; by the Society. The 'Natural History Review,' Vol. v., No. 4; by the Dublin University Zoological Association. The 'Zoologist' for December; by the Editor. The 'Athenæum' for November; by the Editor. The 'Literary Gazette' for November; by the Editor. The 'Journal of the Society of Arts' for November; by the Society. A 'Manual of British Butterflies and Moths,' No. 23; The 'Entomologist's Weekly Intelligencer,' Nos. 110—114; by H. T. Stainton, Esq. 'Description de diverses espèces nouvelles ou peu connues des Genre Scolia' par H. de Saussure; by the Author.

Exhibitions.

Mr. Stevens exhibited a box of minute Coleoptera, chiefly Staphylinidæ, sent by Mr. Wallace from Celebes, amongst which were several species of Philonthi and Steni. He observed that he was informed by Mr. Wallace that the Staphylinidæ were no doubt as numerous in the tropics as in more temperate regions, if assiduously searched for.

Mr. Stevens also exhibited two fine longicorn beetles, Phosphorus angulator and Tragocephala pulchella, from Sierra Leone.

Mr. Bond exhibited a specimen of Acherontia Atropos, having the markings of both the anterior and posterior wings on the right side much more suffused than usual.

Dr. Wallace exhibited a box of Lepidoptera taken in the Isle of Wight during the past summer: it contained a fine specimen of Catephia alchymista, a Noctua new to Britain, taken in September last; a specimen of Laphygma exigua, attracted by light, also in September; Heliothis armigera; Leucania vitellina; specimens of Micra ostrina, taken in June and August, and an example of Nola centonalis, attracted by light the first week in July.

Mr. Smith exhibited some beech leaves from Fontainebleau Forest, infested by galls formed by Cecidomyia Fagi: he observed that the species was mentioned by Mr. Walker in the third volume of the 'Insecta Britannica,' p. 131, as found on beech trees in Switzerland, &c.

Mr. Smith also exhibited specimens of Ponera contracta, found by Mr. Squire in a bakehouse near Burton Crescent.

Mr. Westwood observed that the first recorded British example of this species was found by him in St. James's Park.

Mr. Westwood exhibited a specimen of Solpuga fatalis, a large and very poisonous spider from India.

Mr. Westwood stated that the binding of the books in the library of a lady residing at Oxford had lately been found to be much injured by a Lepidopterous larva, apparently that of Endrosis fenestrella.

The Secretary read the following, from a letter addressed by Mr. H. W. Bates to Mr. Stevens:—

"Ega, September 29th, 1858.

"The two species of Cymindis you mention as interesting things contained in my last collection were taken under extraordinary circumstances, which I think are worth relating, although there is nothing of scientific importance connected with the subject. One only is a Cymindis, the largest of eight or ten species: I have found all but this one about roots of herbage in sandy, partly sheltered places; the other metallic species, so similar to the Cymindis in its rufous square humeral patch, is really a Coptodera or new genus allied thereto,—all the allied species of which, at least twenty taken here, are found coursing over the bark of decaying trees. These two species, however, were not taken in their proper habitats, but cast ashore on the sandy beach near the town after a stormy night on the lake. I found them together with vast multitudes of other insects; in fact, there was a ridge of sediment along the beach, a mile in length, composed almost entirely of insects. It is remarkable that a great number of the species I have never been able to obtain in any other manner. The causes of the phenomenon I suppose to be these,—premising that it occurs only once annually, at the end of August, during stormy, changeable weather, which follows the first heats of the fine season: — a sultry night attracts vast numbers of nocturnal insects from the forest to fly about over the lake; a squall of cool wind arrives suddenly from the opposite shores, and the wind and chilled temperature cast the myriads of gambolling insects into the water, the swell afterwards casting them on the beach. It is a proof of the vast number of the nocturnal insects in the tropics. The greater proportion consists of Coleoptera; there are also many Hemiptera and moths; even small birds, Cerabæ and others.

"The Coleoptera consist chiefly of vast numbers of Scaritidæ, from minute species less than the Dyschirius gibbus of Europe to large Scarites, 1½ inch long; some of them of very singular forms, such as Oxystomus, Stratiotes, and some, I think, new genera; the most remarkable of which Mr. Westwood has recently described as Solenogenys fœda. There are also many Truncatipennes, chiefly of genera Polystichus, Zuphium, Diaphorus, Galerita, Casnonia and Brachinus. Other Geodephaga are in less variety, but some species, as a species of Dercylus, are in vast multitudes. Next in numbers to the Scaritides are the Heteromera, chiefly small species allied to Helops. After them come the Lamellicornes; grand Dynastes—the Megalosomæ, Mars and Actæon, Enema infundibulum, species of Stratœgus, Cælosis, Ligyrus, Stenocrates, Chalepus and Cyclocephala. Some black species of Chalepus and Stenocrates especially occur always by thousands. There are also a few Melolonthidæ, of the genus Microcranium (*Burm.*). Amongst the sediment I found also one or two large handsome Buprestidæ. Staphylini occur in less abundance, although there are great numbers of minute species clinging to portions of wood, and a few very large species, as Pinophilus torosus, *Er.*, a very large Staphylinidi. The Pselaphidæ are also in vast numbers, clustering within the crevices of pieces of wood and rubbish cast up by the waters. I could only find time to select a few of the more curious species; one was a minute Articerus, some others belonged evidently to genera at present unknown. There were many other large Coleoptera, of which only single specimens occured, such as two very fine Prionidæ, one, I think, a Mecosarthron. Numbers of a Macraspis also occurred,—a genus which I thought were exclusively day-flyers, and it was a species which I had not yet taken in its place in the forest. There were also many Coccinellæ; two Cantharides which I have never been able to meet with elsewhere; several Anthici, Curculionides, Cassidæ and other families of Coleoptera.

"There are a few Hymenoptera, ants and one or two bees and wasps.

"The Hemiptera were chiefly two or three species of Pachycoridæ, very handsome insects, especially one, an Angocoris, but these were rare, whilst a species of Canthecona was in great abundance.

"The greater part of the insects thus cast up by the waters of the lake were quite dead, others nearly so, whilst many clinging to portions of wood and weeds were alive:

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Proceedings of Societies.—Entomological Society, 6349.

*** Will the author of these communications oblige me with his name?**

I beg to remind my readers that the Subscription for 1858 has expired, and that the prepayment for 1859 is now due, and must be made before the end of the present month. No plan ever gave so great satisfaction to all parties as this of prepayment; all complaints of irregularity in delivery have ceased, and every Subscriber has his copy on or before the 1st of each month. I must, however, remind my Subscribers that those prepaying for only a portion of the year have no claim to double numbers; those paying for the twelve in advance are entitled to double numbers, however frequently they may occur.

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